Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): An image sensor unit comprising

a first photodiode array ~~photoconverter comprising a first array of first light receiving elements, the first light receiving elements having first imaging regions, the first photoconverter~~ for photoelectrically converting light of a first color ~~light quality~~ from a source image into a first color output signal ~~for outputting signals by photoelectric conversion~~

a second photodiode array for photoelectrically converting light of a second color from a source image into a second color output signal

a third photodiode array for photoelectrically converting light of a third color from a source image into a third color output signal

a fourth photodiode array ~~second photoconverter comprising a second array of second light receiving elements, the second light receiving elements having second imaging regions different from the first imaging regions of the first light receiving elements, the second photoconverter~~ for photoelectrically converting light ~~of a second light quality~~ from the source image into a monochrome output signal, wherein the monochrome output signal has higher gradation than the first, second and third color output signals ~~for outputting signals by photoelectric conversion.~~

a color signal correction unit to combine the monochrome output signal with the first, second, and third color output signals to provide first, second, and third enhanced color image signals having improved gradation compared to the first, second, and third color output signals.

Claims 2 – 17 (Canceled)

Claim 18 (Currently amended): A process for producing enhanced image signals comprising

providing a first photoconverter ~~comprising a first array of first light receiving elements, the first light receiving elements having first imaging regions~~ for photoelectrically converting light of a first color from a source image into a first color output signal

providing a second photoconverter ~~distinct from the first photoconverter comprising a second array of second light receiving elements, the second light receiving elements having second imaging regions different from the first imaging regions of the first light receiving elements of a second light~~ for photoelectrically converting light of a second color from a source image into a second color output signal

providing a third photoconverter for photoelectrically converting light of a third color from a source image into a third color output signal

providing a fourth photconverter for photoelectrically converting light from a source image into a monochromatic output signal, wherein the monochrome output signal has higher gradation than the first, second and third color output signals

~~the first photoconverter photoelectrically converting light of a first light quality from a source image~~

~~the second photoconverter photoelectrically converting light of a second light quality from the source image~~

~~outputting first signals from the first photoconverter~~

~~outputting second signals from the second photoconverter.~~

combining the monochrome output signal with the first, second, and third color output signals to provide first, second, and third enhanced color image signals having improved gradation compared to the first, second, and third color output signals.

wherein the first, second, and third colors comprise red, green and blue primary colors

Claims 19 – 32 (Canceled)

Claim 33 (Currently amended): A process for producing image signals comprising

receiving a first color image signal from a first color photoconverter for a first color

receiving a second color image signal from a second color photoconverter ~~distinct from the first color photoconverter~~ for a second color

receiving a third color image signal from a third color photoconverter for a third color

receiving monochrome image signals from a monochrome photoconverter for black and white, wherein the monochrome image signals have higher gradation than the first, second and third color output signals

~~improving a quality of at least one of the first, second and third color signals using information in the monochrome signals~~ processing the monochrome image signals and the first, second, and third color image signals to provide first, second, and third enhanced color image signals having improved gradation compared to the first, second, and third color image signals.

Claim 34 - 41 (Canceled)

Claim 42 (New) The image sensor unit of claim 1, wherein the first, second, and third colors comprise red, green and blue primary colors.

Claim 43 (New) The image sensor unit of claim 42, wherein the color signal correction unit further comprises

a color difference calculation circuit to convert the first, second, and third color output signals into a brightness signal, a first color difference signal, and a second color difference signal, and

an RGB correction circuit to convert the monochrome output signal, the first color difference signal, and the second color difference signal into the first, second, and third enhanced color image signals.

Claim 44 (New) The image sensor unit of claim 43, wherein the color correction unit further comprises a parameter storage memory.

Claim 45 (New) The image sensor unit of claim 1, wherein

the first, second, and third color output signals are digitized into respective digital signals each having a first number of bits

the monochrome output signal is digitized into a digital signal having a second number of bits greater than the first number of bits.

Claim 46 (New) The process for producing enhanced image signals of claim 18, wherein the first, second, and third colors comprise red, green and blue primary colors.

Claim 47 (New) The process for producing enhanced image signals of claim 46, wherein combining further comprises

converting the first, second, and third color output signals into a brightness signal, a first color difference signal, and a second color difference signal, and

reverse converting the monochrome output signal, the first color difference signal, and the second color difference signal into the first, second, and third enhanced color image signals.

Claim 48 (New) The process for producing enhanced image signals of claim 47, wherein converting and reverse converting are performed using parameters stored in a parameter storage memory.

Claim 49 (New) The process for producing enhanced image signals of claim 18, wherein combining comprises

digitizing the first, second, and third color output signals into respective digital signals each having a first number of bits

digitizing the monochrome output signal into a digital signal having a second number of bits greater than the first number of bits.

Claim 50 (New) The process for producing image signals of claim 33, wherein the first, second, and third colors comprise red, green and blue primary colors.

Claim 51 (New) The process for producing image signals of claim 50, wherein processing further comprises

digitizing the first, second, and third color output signals into respective digital signals each having a first number of bits

digitizing the monochrome output signal into a digital signal having a second number of bits greater than the first number of bits

converting the digitized first, second, and third color output signals into a brightness signal, a first color difference signal, and a second color difference signal, and

reverse converting the digitized monochrome output signal, the first color difference signal, and the second color difference signal into the first, second, and third enhanced color image signals.

Claim 52 (New) The process for producing enhanced image signals of claim 51, wherein converting and reverse converting are performed using parameters stored in a parameter storage memory.